

March 10, 2005
Job No. 5417000672

County of Mono Planning Department
P.O. Box 8
Bridgeport, California 93517

Attention: Mr. Keith Hartstrom, Senior Planner

**Re: Review Of Water Well Feasibility And Siting Study
Chalfant Valley Area
Mono County, California**

1 INTRODUCTION

AMEC Earth & Environmental, Inc. (AMEC) has reviewed the Water Well Feasibility and Siting Study for the subject project on behalf of Mono County. The study was dated September 2004 and was prepared by Richard C. Slade & Associates LLC, Consulting Groundwater Geologists. AMEC's review assessed the results of the referenced feasibility and sitting study with respect to the requirements of the Mono County Environmental Checklist Form, items VIII b & f of Appendix G. In reviewing and commenting on the referenced document, AMEC considered observations made during the June 3, 2004 visit to the site and past related services provided to Mono County. AMEC's comments focus on whether the referenced document provides significant data and conclusive arguments relative to the potential adverse impacts to water resources in the area of the proposed project caused by project demands. The purpose of this review is to provide the County of Mono with technical expertise regarding potential water resource issues associated with the proposed development. This review is based on the documents that have been provided to the County. It is understood that the results of this review, along with other information, will be utilized by the County as an aide in either approving or denying the requested development.

2 PROJECT UNDERSTANDING

AMEC understands the following with regards to the proposed project:

1. The site consists of approximately 29 acres of relatively flat land located in the central portion of the community of Chalfant. This site has been used for agricultural purposes in the past.
2. The proposed development will consist of 48 single-family residential lots, approximately 0.43 acres each, along with a 2 acre commercial site.
3. Anticipated water supply demand is reported to be 56 acre-feet per year. This equates to an annualized flow rate of 32 gallons per minute.
4. Primary water supply for the community at-large is individual water wells.

5. Groundwater has been assessed to be approximately 45 to 50 feet below the existing ground surface and the aquifer is considered to be under unconfined conditions.

3 REVIEW COMMENTS

AMEC's comments to the above referenced report are as follows:

1. The report states that the property was previously used for agricultural purposes and an on-site irrigation well is still present. Typical water demands for commonly grown crops in the area, such as alfalfa are on the order of 4-6 acre-feet per acre. If 20 acres of the 29 acres were previously utilized for agriculture purposes the past water demand probably would have ranged from 80 to 120 acre feet per year. Given this previous demand, it is considered possible that an assessment of past land use, including local changes in demographics and past legal filings for water use may aid in supporting the premise that the local aquifer can support the proposed development.
2. Statements in the report indicate that the work performed specifically excludes an assessment of impacts due to proposed septic systems. The report should contain an assessment of the amount of recharge to the aquifer due to return flows from the septic systems. In addition, studies performed by the US Geological Survey and others, such as Washoe County, Nevada, have demonstrated that densely spaced septic systems overlying a shallow unconfined aquifer (as described for this proposed project) can lead to significant contamination of the aquifer and future costly modifications to the water and wastewater systems. This latter point is made so that the issue can be addressed by Mono County in the future, if desired.
3. A primary argument made for the feasibility of the aquifer to sustain the proposed development is the overall state of the aquifer with respect to recharge versus discharge. AMEC agrees that this is a very important issue for both this proposed development and future developments in the Chalfant Valley. However, the area of influence of a water well and the amount of draw-down observed in the aquifer surrounding the well (given a constant recharge) is related to the hydrological characteristics of the aquifer in the immediate vicinity of the well. The report states that minimal data relating to these characteristics in the vicinity of the aquifer was available. However, even with the lack of specific data the authors concluded, "that there will be no significant water level draw-down impacts on those offsite wells." It is suggested that the proposed drilling and testing of the aquifer be performed and that an assessment of the potential impacts to the offsite wells be provided to Mono County. The data from such a test program could be used to aid in assessing the potential impacts to the proposed water supply wells from septic recharge and the premise that the proposed separation distances of the two supply wells is adequate to address well interference.
4. A concluding statement is made to the effect that water in the Bishop Tuff, located below the unconfined alluvial aquifer, should be under semi-confined to confined conditions. Previous sections in the report indicate that the two lithologic units are in direct contact. An explanation of why there would then be two hydrologic regimes should be provided.

5. The California Department of Health Services requires that a permitted public water source be sustainable for a minimum of ten years. Please provide specific discussion relating to the resource, this requirement, and the potential impacts of discharging 56 acre-feet per year from the site for ten years.

4 CLOSURE

As your adjunct staff we look forward to reviewing the future work products to be prepared for the proposed specific plan area in Chalfant and providing input relative to your approval of the project. Should you have any questions regarding this letter please contact Mark McLarty at 714-779-2591 or Brett Whitford at 775-331-2375.

Sincerely;



Brett Whitford
Environmental Services Manager
BW/MWM/dc

Mark W. McLarty
Associate Engineering Geologist
CEG 1107 (Expires April 30, 2006)

Encl.: None

C: Mr. Keith Hartstrom, Addressee (1)